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IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF WASHINGTON

FILED IN THE
U.S. DISTRICT COURT
EASTERN DISTRICT OF WASHINGTON

NOV 07 1989

JAMES H. LARSEN, Clerk
Deputy

KEY TRONIC CORPORATION,

Plaintiff,

vs.

UNITED STATES OF AMERICA,

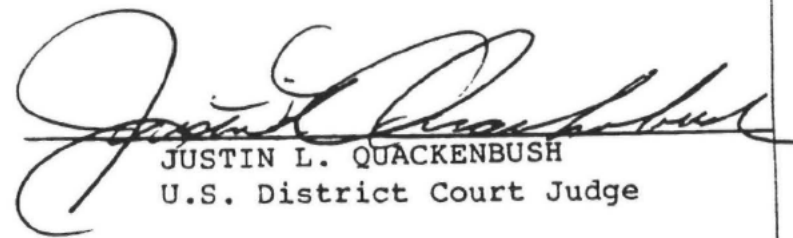
Defendant.

C-88-041-JLQ
No. C-87-20-JLQ
November 3, 1989
Spokane, Washington

TRANSCRIPT OF PROCEEDINGS

ORAL FINDINGS OF FACT AND CONCLUSIONS OF LAW
RENDERED BY THE HONORABLE JUSTIN L. QUACKENBUSH, Judge.
as Amended J.L.Q.

DATED this 7th of November, 1989.


JUSTIN L. QUACKENBUSH
U.S. District Court Judge

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NOVEMBER 3, 1989
MORNING SESSION

* * * * *

THE COURT: I am going to give you an oral opinion, and it is not going to be lengthy because I feel it is my job as the trier of fact to make the ultimate findings of fact and also conclusions of law.

Let me just take the (b) (6) matter first. I conclude that the release executed by the Irgens did not extinguish the liability of the Air Force or the government. The release released the county and Key Tronic. I am satisfied that under Washington law if the Irgens would have determined that they wished to also pursue the government after the execution of that release that they could have. Therefore, I find that the Key Tronic Corporation did not extinguish the liability of the government to the (b) (6) and I, therefore, will dismiss with prejudice the claim in the (b) (6) matter.

I will move on now to what I feel the appropriate findings are in the (b) (6) case. I find that between 1975 and 1980, Key Tronic dumped some 12,000 gallons of TCA in the Colbert Landfill, which during that period of time descended and leached into the (b) (6) well. It is impossible for me to make any finding whatsoever as to percolation rate or the rate of descent; however, it is undisputed and Key Tronic admits that they dumped TCA, which contaminated and polluted the

1 (b) (6) well.

2 I find that in 1976, the Air Force decided to
3 quit dumping its contaminants in its own landfill out here at
4 Fairchild Air Force Base and was looking for some other place
5 to dump its chemical wastes. They conferred with the county
6 only to the extent of asking the county if they had some place
7 where they could dump the TCA, not just the TCA, but their
8 chemical wastes.

9 I find that the Air Force failed to advise the
10 county with specificity as to quantities, as to contents, and
11 I also find that the Air Force was completely negligent in
12 determining for itself exactly what the chemical makeup of the
13 compounds and liquids were; they failed to inquire of any
14 governmental agency as to the danger of dumping these
15 contaminants; they failed to do any research whatsoever,
16 either scientific or legal; they failed to do any research to
17 see if they would be violating any federal or state law.

18 I without hesitation find the Air Force was
19 negligent, not only by reason of the violation of the State of
20 Washington statutes, including 90.48, but also because they
21 failed to carry out the mandate that had been given to the
22 governmental agencies, I believe, during the Nixon
23 Administration to protect the environment, including
24 groundwaters. I find that the people at Fairchild Air Force
25 Base were completely negligent in failing to address those

1 | issues at all.

2 | The county didn't accept the responsibility for
3 | any investigation in those areas for the Air Force. All the
4 | county said was we have a landfill that we will allow you to
5 | dump your chemical wastes. That doesn't excuse the Air Force
6 | or any other private person from complying with the laws of
7 | the Stae of Washington, both common law and statutory, which
8 | prohibit an individual from taking actions that would pollute
9 | the groundwaters.

10 | Because there was no investigation and no
11 | considered judgment in this matter, clearly the discretionary
12 | function rule can not apply. I don't see how the
13 | discretionary function rule can apply if you don't do a
14 | thorough investigation of the pro's and con's and then make an
15 | appropriate judgmental decision. This is no different than,
16 | as far as the county owning the land, if the Air Force would
17 | have obtained the consent of any other private landowner who
18 | said that you could dump on my land. If that were the case,
19 | the Air Force would be responsible and could not avoid that
20 | responsibility by reason of the discretionary function
21 | exception.

22 | I find that the recent K.I.D. case, which came
23 | out of this district, does not change the discretionary
24 | function law at all. In fact, it confirms my decision that by
25 | reason of the complete lack of investigation by officials at

1 Fairchild, there was no considered judgment made other than,
2 "They will let us dump at Colbert. Let's take it out there."

3 Now, with regard to quantities^{gall}, there are two
4 sources, the F.M.S., the Field Maintenance Squadron, and the
5 A.M.S., or Avionics Maintenance Squadron. I find that between
6 1977 and 1980, those two activities produced TCA, and that the
7 Air Force dumped between 500 and 800 gallons of TCA at the
8 Colby~~ert~~ Landfill. I find that, despite the discussions I had
9 with Mr. Moore, and that was merely my rhetorical process, I
10 [find that the injury was in fact indivisible. It is
11 impossible for this court to say that merely because the Air
12 Force's quantities were only five percent or less of the
13 total quantity dumped that the Air Force's role was not a
14 proximate cause of the injury. I find the injury was in fact
15 indivisible, and that the Air Force's dumping of TCA at the
16 [Colbert Landfill was a proximate cause, one of the proximate
17 causes, of the contamination and pollution of the (b) (6) well,
18 along with the dumping activities of TCA by Key Tronic.

19 Mr. Moore^{gall} argues that the Air Force's conduct
20 in their dumping was more culpable than Key Tronic's, and I
21 can't find that. I don't find any evidence that would
22 indicate that Key Tronic's conduct in utilizing the Colbert
23 Landfill was any more or less culpable than that of the Air
24 Force. I think that as far as the decision-making process,
25 they were equally culpable. But that does not mean that under

1 those circumstances quantity is ^{not 720} an appropriate matter for
2 consideration by this court, particularly in view of the
3 comparative fault assignment responsibility that is given the
4 trier of fact under the Washington Tort Reform Acts. I find
5 that the Air Force's conduct, their fault, was ten percent of
6 that of Key Tronic's, and I believe I have also found that
7 both Key Tronic and the Air Force's conduct in dumping of TCA
8 was a proximate cause of the damage to the (b) (6).

9 Let me make an additional finding as far as the
10 State Department of Ecology and the Spokane County Utilities
11 Department Engineer's Office. At the time that the county
12 informed the Air Force that they could dump their chemical
13 wastes at Colbert, I think that there was a complete chaotic
14 situation existing as to what was or was not extra-hazardous
15 material. At the time that Spokane County authorized the
16 dumping both by Key Tronic and the Air Force, they had made no
17 investigations as to what the Air Force was going to dump or
18 what Key Tronic was dumping. The so-called contract between
19 the county and ~~Key Tronic~~ ^{the Air Force 720}, which was in effect ex post facto,
20 I believe it was signed in 1980, that it wasn't a contract
21 authorizing the disposal of extra-hazardous wastes. It was
22 clearly a contract as any dump operator would have with a
23 commercial customer saying what the terms would be for
24 dumping, including the financial considerations. So there was
25 no role undertaken by the county for the Air Force or for Key

1 Tronic in determinng whether or not the dumping of TCA at
2 Colbert was authorized under the laws of the State of
3 Washington.

4 As I have indicated, I also find that the Air
5 Force failed to comply with its own regulations which were in
6 existence at the time they started dumping that required them
7 to make all practicable effort to dispose of pollutants in a
8 manner that would not expose people to hazardous waste. They
9 did no investigation; they conducted no studies.

10 Are there any other findings you want me to make,
11 Mr. Moore?

12 MR. MOORE: Your Honor, we have submitted written
13 proposed findings of fact. I guess I would ask the court to
14 take a look at those and see if there is anything in there.

15 THE COURT: I just glanced through them, and my
16 findings are the ultimate findings of fact, rather than making
17 the individual findings of fact on each specific item. But I
18 just wonder if there are further proposed findings that you
19 feel I have not covered by my ultimate oral findings?

20 MR. MOORE: I wasn't following it, Your Honor.

21 THE COURT: Maybe it would be easier, and I
22 should ask you the same question, Mr. Yu.

23 MR. YU: My understanding is Your Honor will be
24 issuing a written opinion?

25 THE COURT: No, you have my opinion, and it is in

1 writing in the court reporter's stenotype machine. That is
2 why I am asking either one of you if you feel there are
3 additional issues that are unresolved that I need to find on.

4 MR. MOORE: Your Honor, I don't believe you had a
5 specific finding yet on the extremely hazardous nature of TCA
6 in this case. I would ask the court to make a finding on that
7 issue.

8 THE COURT: Yes, it is and was an extremely
9 hazardous waste material.

10 MR. YU: Your Honor, we would request some
11 finding as to the issue of whether Dr. Landau's opinions were
12 sufficiently supported by the factual testimony as to where
13 waste was disposed of in the landfill.

14 THE COURT: I am satisfied from Dr. Landau's
15 testimony that both the dumping by Key Tronic and the dumping
16 by the Air Force contributed to the contamination of the
17 (b) (6) wells.

18 I might say to assist you in case someone should
19 disagree with me on (b) (6), I make these same findings as to
20 (b) (6) in case there is an issue of review, whereby it should
21 be determined that the liability of the Air Force was
22 extinguished by the release that the (b) (6) signed to the
23 county and Key Tronic. I find that the testimony established
24 by a preponderance of the evidence that the dumping by the Air
25 Force, along with the dumping by Key Tronic of TCA, jointly

1 contaminated the (b) (6) well. I would assign the same
2 comparative fault, that being ten percent, to the Air Force,
3 and ninety percent to Key Tronic.

4 MR. MOORE: Your Honor, I guess I would feel most
5 comfortable if we could submit findings of fact based upon
6 your oral opinion to you and try to include some of the
7 specifics that we proposed in our written findings that are
8 consistent with your oral opinion.

9 THE COURT: If you would like to do that, you can
10 submit them to Mr. Yu based upon my oral opinion, and if you
11 feel that the findings are not substantiated by my oral
12 opinion, Mr. Yu, you can file your objections.

13 MR. YU: Very well, Your Honor.

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1 A. They were cooperative.

2 Q. Mr. Malm, what was your understanding with respect to the
3 legality of disposing of extremely hazardous wastes in the
4 State of Washington in 1980?

5 A. It was prohibited by the -- by WAC 173.302.

6 Q. Was it prohibited in all instances at all sites within
7 the State of Washington?

8 A. To the best of myself knowledge, yes, that was stated in
9 the regulation.

10 Q. Have you ever made a determination as to whether
11 trichloroethane is classified as an extremely hazardous waste
12 under the Washington State regulations?

13 A. Are you talking about 302 at that time?

14 Q. I'm referring to the Washington Administrative Code
15 Section 173.302, yes.

16 A. Yes.

17 Q. And what steps did you take?

18 A. As far as making that determination?

19 Q. Yes.

20 A. Just looking at the classification of the compound which
21 it would be considered a halogenated hydrocarbon, and based on
22 the fact it does fit the definition of hydrocarbon in the
23 regulation, and if fact it would exceed one percent
24 concentration, would cause it to be an extremely hazardous
25 waste.

1 Q. I would like to have you look at what's been marked as
2 Exhibit No. 71. Is that in front of you at the witness stand?

3 A. I've got looks like No. 32 here. Let me see. I have No.
4 71 in front of me.

5 Q. Can you identify what's been marked as Exhibit No. 71?

6 A. This appears to be WAC 173.302 as it existed in 1980.

7 Q. And this is the regulation that you were just referring
8 to?

9 A. Yes, it is.

10 Q. Was there any specific statutory or regulatory provision
11 with respect to the classification of extremely hazardous
12 wastes?

13 A. I believe there were several of them in here. The one
14 that we specifically were talking about is under Section 130.

15 Q. Turning your attention to Exhibit No. 71, Washington
16 Administrative Code 173.302.130, did you make your
17 determination under this provision of the Washington
18 regulations?

19 A. Yes, I believe we did.

20 Q. And what is that provision? What's your understanding of
21 that provision.

22 A. If it meets these criterion, then it would be designated
23 as an extremely hazardous waste and it would have a weight
24 component which you would have to have at least one hundred
25 pounds of it and it would have to exceed one percent

1 concentration and be classified as a halogenated hydrocarbon.

2 Q. Is TCA a halogenated hydrocarbon?

3 A. Yes, it is.

4 Q. Is it your testimony, sir, then if TCA is disposed of in
5 quantities greater than one hundred pounds in a concentration
6 greater than one percent that it qualifies as an extremely
7 hazardous waste?

8 A. That's correct. That's correct.

9 Q. With respect to the regulations contained in the WAC,
10 would you characterize this regulation as objective or
11 subjective?

12 A. I would characterize it as objective.

13 Q. Why is that, sir?

14 A. They specify certain criteria and if you have the
15 information that you need to evaluate, you can objectively
16 evaluate or make an objective determination either it fits or
17 it does not fit.

18 Q. You would need what information in order to make the
19 determination?

20 A. The type of compound, the concentration, and the
21 quantity.

22 Q. Do you know, sir, when the Washington regulations that
23 we've been discussing went into effect?

24 A. They were phased in over time. There is an
25 implementation schedule in the back that is prescribed for

1 these regulations.

2 Q. I'll direct your attention to Section 390, Washington
3 Administrative Code 173-302-390. What is the effective date
4 with respect to the designation of "extremely hazardous
5 wastes?"

6 A. I believe that would be on August 1, 1978, was when that
7 section went into effect.

8 Q. Do you know what happened subsequent to the promulgation
9 of these regulations? Were there any subsequent regulations
10 promulgated with respect to the classification of extremely
11 hazardous wastes?

12 A. By the State of Washington?

13 Q. Yes.

14 A. In 1982, we adopted WAC 173-303, which also had a very
15 similar designation scheme in it.

16 Q. Is TCA, trichloroethane, designated as an extremely
17 hazardous waste under the Revised Washington Administrative
18 Code?

19 A. It can be. Again, you have a concentration designation
20 scheme that's specified in there greater than one percent.
21 Concentrations of trichloroethane given at that time in 1982,
22 the quantity exclusion limit would have been four hundred
23 pounds to designate it, but if it exceeded, again, if it was
24 the appropriate compound and the appropriate concentration,
25 and quantity would be -- it could be designated as extremely

1 hazardous waste.

2 Q. We've been discussing the regulations in the abstract.
3 You made a determination that Key Tronic's TCA fit the
4 criteria for extremely hazardous waste.

5 A. Yes, we did.

6 Q. With respect to waste generated by any other party,
7 including the Air Force, what would the criteria be to
8 determine whether in 1980 that waste was an extremely
9 hazardous waste within the meaning of the regulations?

10 A. It would have been the same criteria specified in the
11 regulations as --

12 Q. One percent?

13 A. One percent.

14 Q. One hundred pounds of halogenated hydrocarbon?

15 A. That's correct.

16 Q. You testified that you also spoke with the county to
17 learn that Key Tronic was disposing of TCA. Did you go beyond
18 the county to ascertain information on who else was disposing
19 of waste at the Colbert landfill?

20 A. I don't recollect exactly who we asked at that time. The
21 county controlled the landfill and I believe that asked them
22 to determine who was bringing waste in. They would have been
23 the primary source of the information at that time to identify
24 who was utilizing that landfill. We might have asked the
25 Spokane County Health District; I don't recall.

1 Q. As of the Fall of 1980, though, the only known party that
2 was disposing of TCA was Key Tronic Corporation, as far as you
3 were aware?

4 A. To the best that I recollection, yes.

5 THE COURT: All right. Let me take this other
6 matter.

7 (Recess taken.)

8 Q. (By Mr. Schneider) Mr. Malm, you've testified that TCA
9 under certain circumstances meets one of the criteria for the
10 classification as an extremely dangerous waste under the
11 Washington Administrative Code in effect in 1980. Are there
12 other ways by which TCA could be classified as an extremely
13 hazardous waste?

14 A. I believe that there were three criteria that were
15 presented in the regulation and --

16 Q. Could you turn to the regulation and identify those
17 criteria?

18 A. Yes.

19 A. There is a general paragraph or Section 100 that deals
20 with it, and following that there are three specific
21 paragraphs; first, hazardous due to toxicity to man and
22 wildlife, which yields what the definition of extremely
23 hazardous waste, Section 110; Section 120 has due to quantity,
24 and that has to do to do with what appears to be toxicity and
25 the amount that would be present to classify it as extremely

1 hazardous waste; and, third, was the one that we discussed,
2 Section 130, which was hazardous due to persistence.

3 Q. What is the Department of Ecology's position with respect
4 to the classification of an extremely hazardous waste? Does
5 all three of the criteria have to be met or only one?

6 A. We had this discussion with Key Tronic, and I think
7 that's part of the '83 trial data. It was our position that
8 only one had to be met.

9 Q. And in your view since Section 130 was met with respect
10 to the so-called persistent standard, TCA met the criteria?

11 A. Yes, it did.

12 Q. Let's go back to the testimony before the short break.
13 You stated that Key Tronic was the only known disposer of TCA
14 at the time you investigated the water complaints.

15 A. To my recollection, yes.

16 Q. What knowledge, if any, did you have of the Air Force
17 disposal practices of TCA in 1980?

18 A. Any knowledge of TCA disposal by the Air Force? I don't
19 believe I had any knowledge of TCA disposal by the Air Force
20 at that time.

21 MR. SCHNEIDER: I would like to have the witness
22 shown Exhibit No. 29.

23 Q. (By Mr. Schneider) Can you identify what Exhibit 29 is?

24 A. It is a letter that was written by the Spokane County
25 Utilities and signed by Damon Taam and John Anicetti at the

1 Spokane County Health District, dated June 4, 1980, and it has
2 to do with the hazardous waste survey that was conducted
3 apparently by the county and identified who was bringing
4 various chemicals into both Colbert and Mica landfills.

5 Q. Did you receive a copy of this letter?

6 A. I was carbon copied it, yes.

7 Q. Does the letter mention that the Fairchild Air Force Base
8 was disposing of TCA?

9 A. Not specifically.

10 Q. Mr. Malm, you testified that you've had some experience
11 with respect to the Washington State Clean Water Act.

12 A. Yes.

13 Q. And what's the statutory designation for that?

14 A. It would be Revised Code of Washington 90.48.

15 Q. What is your understanding with respect to the
16 requirements of that statute?

17 MR. TALSON: Objection, Your Honor. Relevance.

18 THE COURT: Oh, I will allow him to answer,
19 having in mind, of course, I'm not bound by the answer. I
20 guess I would have to make the decision on the ultimate
21 questions of law, along with the factual determinations.

22 THE WITNESS: There are various things that are
23 discussed. I believe the points that you're alluding to that
24 if you would discharge compounds to waters of the state that
25 you are required to have a permit. You would be required to

1 have a permit for that activity. Is that --

2 Q. (By Mr. Schneider) Has RCW 90.48 ever been applied to a
3 hazardous waste site?

4 A. Yes, it has.

5 MR. TALSON: Your Honor, perhaps at this point I
6 better make clear the basis of my objection. We filed a
7 motion in limine to exclude any discussion of that WAC based
8 on the fact that the (b) (6) trial judge determined that WAC
9 90.48 was not applicable to the facts raised in that case, but
10 rather that RCW 70.105 was applicable. And since this is a
11 contribution action, the United States feels that the evidence
12 in this case should somewhat parallel the facts and issues
13 that were resolved and created liability in the case.

14 THE COURT: Well, you convinced me on the TCA/TCE
15 issue. You don't have me convinced yet on the basis for
16 liability, that being that I could only consider the position
17 that the trier of fact, I guess in that (b) (6) case over in
18 the county court, it was a jury, and I was thinking this
19 morning I was looking in the exhibits to see if there was a
20 copy of the instructions so I could see what the court
21 instructed the jury on. But I'm going to deny your objection,
22 overrule your objection with leave to renew.

23 MR. TALSON: And may I state for the record, Your
24 Honor, that the United States further objects to the
25 introduction or discussion of 90.48 because we consider it to

1 be in the nature of a strict liability statute. As the court
2 is aware, strict liability is not a basis for recovery against
3 the United States under the Federal Tort Claims Act, so that
4 is a second reason --

5 THE COURT: Well, I don't know that that, if in
6 fact under the law of the State of Washington, for example,
7 that there is strict liability, that that would preclude
8 recovery against the United States. You can once again
9 attempt to convince me on that. I'm not ruling one way or the
10 other, but I'm going to overrule your objection.

11 If you convince me, then I'll only consider the
12 evidence that's appropriate.

13 Q. (By Mr. Schneider) Mr. Malm, has RCW 90.48 ever been
14 applied to a hazardous waste site within the State of
15 Washington?

16 A. Yes, I'm sure it has.

17 Q. And could it have been applied to the Colbert landfill in
18 1980?

19 A. Given the violation that occurred there, I believe it
20 could have, yes.

21 Q. What violation occurred there?

22 A. Essentially, unpermitted discharge of organic compound to
23 the state waters, groundwater.

24 THE COURT: Excuse me. I asked about the
25 instructions that were given the jury, and I have read the

1 (b)(6) case several times, but in a different vein. It's the
2 basis for my ruling in asbestos cases that fear of cancer is a
3 compensable item against all these asbestos manufacturers. So
4 I'm familiar with it on that basis. But are the instructions,
5 if you have a set, it might help me.

6 MR. SCHNEIDER: We could check, Your Honor. They
7 have not been marked as an exhibit, but --

8 MR. MOORE: Your Honor, I'm looking for them
9 right now. The trial transcript has been marked as an
10 exhibit.

11 THE COURT: All right, then they should be in
12 there.

13 MR. TALSON: And also, Your Honor, if you would
14 like to take a momentary break, we have a transcript
15 downstairs and we can look into it, and if I might state a
16 third basis that I would like to have on the record, Your
17 Honor, is that also if that standard is applied to this case
18 it will in effect hold the United States to a stricter
19 standard of liability than Key Tronic was held in the case in
20 which their liability was determined and which they now seek
21 contribution from. So it creates an inequity and also creates
22 a juxtaposition that the United States feels is not warranted.

23 THE COURT: All right.

24 Q. (By Mr. Schneider) I believe you were explaining why
25 there was a violation of RCW 90.48 at the Colbert landfill; is

1 that correct?

2 A. I believe that's where we were, yes.

3 Q. Do you have any information that there was a discharge of
4 TCA into the groundwater?

5 A. The sampling data that they had to obtain showed that
6 there were various organic compounds in the groundwater.

7 THE COURT: Let me just talk with Mr. Talson.
8 Coming back to my intersection example, one person comes
9 through the green light at an unreasonable rate of speed and
10 is, therefore, neglect, or is not exercising due care, even
11 though that person has the green light and the jury finds that
12 person is negligent. The next person recklessly drives
13 through the red light and as a matter of law is held liable,
14 and those two cars collide and strike the person standing on
15 the sidewalk, and the reckless driver, liable per se under
16 Washington law, is held responsible for the injuries to the
17 pedestrian, and that person then brings the action against the
18 negligent favored driver. I don't think it's necessary to
19 show that the negligent favored driver was guilty of
20 recklessness or that it was the same proximate cause or same
21 statutory violation, to put it in the legal conclusion, as
22 opposed to the factual finding. But if you have some
23 authority that would support your position, I'll certainly
24 look at it.

25 MR. TALSON: One thing, too, I need to bring to

1 the court's attention. I recall now that the judge in the
2 (b)(6) case did not instruct the jury on 90.48. The issue was
3 resolved, I believe, either on a motion or an objection during
4 the trial, and one of the parties tried to put in evidence of
5 90.48. It was objected to and the judge basically indicated
6 he would not instruct the jury on 90.48 because he found it to
7 be a vague, general standard that had been superseded and
8 supplanted by the more -- he felt the more specific
9 provisions.

10 THE COURT: But what if I conclude to the
11 contrary and I conclude that it's negligence for, in this case
12 the Government, the Air Force, to contaminate the groundwater
13 and that there is a violation, say, of 90.48 and a violation
14 of the hazardous disposal act of that '76 Act and the WACs,
15 and that that led to this common proximate cause of
16 contamination of the (b)(6) well with TCA, for which they
17 recovered against Key Tronic and the county?

18 MR. TALSON: If you were to do that, Your Honor,
19 it would seem that you would be providing Key Tronic with a
20 contribution action that was far more potent than they
21 deserve. They should be held to the facts.

22 THE COURT: But the statute, Mr. Talson, doesn't
23 say who is liable by reason of the same negligent act. The
24 contribution statute in the State of Washington refers to --

25 MR. TALSON: Same basis.

1 THE COURT: No, no, no, no. Persons who are
2 jointly and severally liable for the same claim of injury.

3 MR. TALSON: But arguably the plaintiffs in the
4 (b)(6) case established liability based on 70.105. That was
5 all they had to show, and that's what they were compensated
6 for the disposal of extremely hazardous waste, not for
7 disposal of organic compounds in their water, and really what
8 it does, if you allow a standard like that --

9 THE COURT: That's the damage issue, as opposed
10 to the negligence issue. I'll quit interrupting here, but I
11 wanted you to have the benefit of the questions that are in my
12 mind so it will give you something to think about tonight.

13 MR. TALSON: Thank you, Your Honor.

14 THE COURT: Maybe you can assist me on it as we
15 get down to the legal motions and legal issues.

16 Q. (By Mr. Schneider) Mr. Malm, you've testified that there
17 was a discharge of trichloroethane into the groundwater
18 surrounding the Colbert landfill in 1980.

19 A. That's correct.

20 Q. And you've said trichloroethane in fact is an organic
21 matter?

22 A. It's an organic compound, yes.

23 Q. And this discharge of trichloroethane caused the
24 pollution of the groundwater surrounding the Colbert landfill.

25 MR. TALSON: Objection, Your Honor. Foundation.

1 THE COURT: Well, is there any dispute about
2 that?

3 MR. TALSON: I believe there is, Your Honor. The
4 United States plans to produce expert witnesses to discuss
5 what exactly happened with chemicals that were placed in the
6 Colbert landfill. I think if Mr. Malm wants to testify about
7 facts that he has personal knowledge of, we have no objection
8 to that.

9 THE COURT: If there is an issue, Mr. Schneider,
10 the objection may be well taken at this point on a
11 foundational basis.

12 Q. (By Mr. Schneider) Mr. Malm, do you have any
13 understanding as to whether there was pollution of the
14 groundwater surrounding the Colbert landfill in 1980?

15 A. It appeared to me that, well, yes there was pollution of
16 the groundwater in the proximity and beneath the Colbert
17 landfill in 1980.

18 Q. Let me ask you how are you in a position to make that
19 judgment?

20 A. I pulled the initial samples when we did the sampling out
21 there and saw the initial results when they returned from the
22 lab, and there was again trichloroethane in the groundwater,
23 along with other organic compounds.

24 Q. Based on your conducting this sampling and reviewing the
25 analytical results, were you a position to make a

1 determination whether in fact there was pollution of the
2 groundwater surrounding Colbert?

3 MR. TALSON: Objection, once again, Your Honor,
4 on foundation. This man is not an expert in this area. He
5 hasn't been qualified.

6 THE COURT: Overruled.

7 THE WITNESS: It appeared to me there was
8 contamination, yes.

9 MR. SCHNEIDER: I have no further questions.

10 THE COURT: What's the position of the
11 Government, and I'm trying to see if that's been set forth in
12 the Pretrial Order, is the position of the Government that the
13 TCA came from some other source other than dumping by someone
14 at the landfill?

15 MR. TALSON: It's the position of the Government
16 that Key Tronic placed the TCA in the Colbert landfill that
17 was detected in the plaintiffs' wells. There were also other
18 parties who placed trichloroethane into the Colbert landfill
19 which the United States intends to produce evidence of.

20 THE COURT: But my question is is there any
21 contention by the Government that the TCA that contaminated
22 the (b) (6) well came from a source other than the Colbert
23 landfill?

24 MR. TALSON: No, Your Honor.

25 MR. SCHNEIDER: There is a stipulated finding of

1 fact to that effect, Your Honor.

2 MR. TALSON: I think the whole issue is who
3 contaminated --

4 THE COURT: Yes.

5 MR. TALSON: Not where.

6 MR. SCHNEIDER: The stipulation is that Colbert
7 was the source of the contamination of the landfill.

8 THE COURT: Well, that's what I thought, and I'm
9 just trying to focus upon the contention of the parties so
10 that I can follow the theory, and, therefore, the testimony a
11 little bit. Go ahead.

12

13 CROSS-EXAMINATION

14 BY MR. TALSON:

15 Q. Mr. Malm, before I begin my discussion of this matter
16 with you, I would like to clear up one point that was raised
17 by Mr. Schneider on direct.

18 At the time that you met with Key Tronic in October of
19 1980, regarding their disposal of trichloroethane at the
20 Colbert landfill, did Key Tronic tell you that they were not
21 aware of the statute and regulation -- statute and regulation
22 that was involved in this case, that being 70.105 and --

23 A. Yes, I believe they did.

24 Q. Okay. They were not aware of it until you brought it to
25 their attention?

1 Q. How are you familiar with this provision?

2 A. I have reviewed this document in relation to this
3 litigation and previously in relation to other situations I've
4 been involved in.

5 Q. How would one determine if TCA is an extremely hazardous
6 waste under the regulations?

7 THE COURT: I don't want to hear it. (b) (6)
8 says --

9 MR. SCHNEIDER: Very well. We would have
10 presented Dr. Eaton for the purpose of establishing that TCA
11 would meet yet another criteria under the extremely hazardous
12 waste --

13 THE COURT: Well, I better give Mr. Yu the
14 opportunity to be heard as to why the finding of the State of
15 Washington courts that TCA is an extremely hazardous waste
16 isn't the law of the case here. Let me hear from Mr. Yu here.

17 MR. TALSON: Your Honor, first of all, we believe
18 it's relevant again on the issue of the reasonableness of the
19 actions of the Air Force; secondly --

20 THE COURT: Well, but Mr. Schneider was starting
21 to ask Dr. Eaton about whether or not it is an extra hazardous
22 waste; (b) (6) says it is. That's the law of the case. We're
23 trying a contribution action here.

24 MR. TALSON: I have no argument with the Division
25 III Court's determination that TCA is an extremely hazardous

1 waste. I think it is relevant from the point of view as to
2 whether from the Government's defense, as to whether the
3 Washington Administrative Code is objective and an
4 ascertainable standard, and we intend to present evidence on
5 that issue, as well as whether prior to 1983 --

6 THE COURT: I don't know that you're going to be
7 presenting evidence on that issue.

8 MR. TALSON: We will, at least, proffer such
9 evidence.

10 THE COURT: That's fine. This is a contribution
11 action, and counsel on both sides have spent an awful lot of
12 time and money on a contribution action, which in my opinion
13 is a simple inquiry and fact-finding question as to whether or
14 not the Government was a joint tortfeasor, and, if so, its
15 percentage of responsibility. I'm not going to retry the
16 (b) (6) cases.

17 MR. TALSON: I understand that, Your Honor. We
18 do believe that some of these issues are relevant to our
19 discretionary function exception.

20 THE COURT: You can make your offer of proof on
21 that.

22 MR. TALSON: Thank you, Your Honor.

23 THE COURT: That might help you in scheduling
24 your witnesses.

25 MR. TALSON: Thank you, Your Honor.

1 MR. SCHNEIDER: All right. In light of the
2 court's comments, we will not ask Dr. Eaton to testify to the
3 issue of whether the TCA disposed of by the Air Force would
4 meet the criteria under the Washington State Administrative
5 Code 173, Section 302.

6 Q. (By Mr. Schneider) Doctor, are you familiar with the
7 smell of trichloroethane?

8 A. Yes, I am in general.

9 Q. How are you familiar with the smell?

10 A. I've used it in other chlorinated organics in the course
11 of my research.

12 Q. Have you reviewed any literature on the subject?

13 A. Yes. I'm familiar with what documents, numerous
14 documents, state about what the nature of the odor is.

15 Q. Based on your experience, how would you describe the
16 smell of TCA?

17 MR. TALSON: Objection, Your Honor, as to this
18 line of questioning. Dr. Eaton had been represented to us as
19 an expert in toxicology, who would be testifying solely as to
20 the interpretation of the WAC and whether TCA constituted an
21 extremely hazardous waste under that administrative provision.
22 This is going far beyond his testimony as proffered.

23 THE COURT: I'll allow it. Go ahead.

24 THE WITNESS: TCA is described generally as a
25 sweetish, chloroform-like odor.

1 Q. (By Mr. Schneider) That's sweetish, not Swedish?

2 A. That's sweetish.

3 Q. Having a sweet characteristic?

4 A. Having a sweet characteristic, right.

5 Q. And is that consistent with your experience?

6 A. Yes, it is.

7 Q. How would you describe the smell of trichloroethylene?

8 A. It also has a similar chloroform-like odor, probably less
9 sweetish, but similar.

10 Q. With respect to trichloroethane and trichloroethylene,
11 which would have the sweeter smell?

12 A. Of the two, if one were to classify the odor of
13 chloroform as sweetish, then trichloroethane would have the
14 sweeter of the two.

15 MR. SCHNEIDER: Thank you. I have no further
16 questions.

17

18 CROSS-EXAMINATION

19 BY MR. YU:

20 Q. Dr. Eaton, apparently you have had some experience with
21 both TCA and TCE; is that correct?

22 A. Yes, a little bit.

23 Q. If you were given one substance, either one, could you
24 tell by the smell which chemical it was solely on smell?

25 A. I would have a hard time distinguishing between the two

1 solely on the smell.

2 MR. YU: I have no further questions, Your Honor.

3 THE COURT: Do you want to renew your objection
4 now, Mr. Yu, or do you want to waive that objection?

5 MR. TALSON: As to which objection?

6 THE COURT: The line being outside the scope of
7 the designation. Anything further?

8

9 REDIRECT EXAMINATION

10 BY MR. TALSON:

11 Q. Other than the characteristic of smell, are there any
12 other differences between trichloroethane and
13 trichloroethylene?

14 A. They have some differences in vapor pressure and there
15 are some differences in toxicity.

16 MR. TALSON: Thank you. I have no further
17 questions.

18 THE COURT: All right, Doctor. Thank you.

19 MR. MOORE: Your Honor, we're down to one more
20 witness. I just want to let the court know that so that you
21 know we're not going to carry this on too long.

22 MR. TALSON: Excuse me, Your Honor. May we have
23 a five-minute break prior to bringing on the next witness
24 since I expect him to be rather lengthy?

25 THE COURT: Okay.

1 (Recess taken.)

2 MR. MOORE: Your Honor, we have a couple matters
3 I think we would like to take up with the court before we get
4 started. I know the Government has concern about what
5 witnesses it should call.

6 THE COURT: I'll confirm with you that we'll be
7 can only go until noon tomorrow on this.

8 MR. MOORE: We're going to object to any
9 introduction of evidence with respect to other parties, others
10 that are not parties to this action. I would ask Mr.
11 Schneider to address that issue. The Government would like to
12 get a ruling on this, because they have witnesses to call.

13 MR. TALSON: Your Honor, if I may respond, the
14 United States does intend to call approximately three
15 witnesses who are former employees of the Alumax Corporation,
16 a party who dumped chemicals in the Colbert landfill. The
17 United States intends to call them to elicit evidence to show
18 that they placed trichloroethane and ethylene in the Colbert
19 landfill during the times in dispute in this case, and the
20 purpose will be to show that they provided a certain amount of
21 chemical that must be factored in in an apportionment or
22 allocation of damages under the contribution action.

23 We also intend to call Mr. Zitterkopt from
24 Fairchild Air Force Base to testify about the social and
25 economic policy decisions engaged in in determining to close

1 the landfill at the Air Force Base and to instead rely on the
2 county's landfill at Colbert. If Your Honor wishes, the
3 United States is prepared to make a proffer on Mr. --

4 THE COURT: I think it would be better to do it
5 that way.

6 MR. TALSON: Okay. We are also prepared to call
7 Dr. Meyer, an expert witness in chemistry, who would provide
8 testimony in rebuttal to Mr. Eaton's testimony; however, since
9 Your Honor has cut short Mr. Eaton's testimony, we are
10 prepared, I believe, to provide a proffer on Dr. Meyer's
11 testimony. Your Honor, it was just a question of whether you
12 wanted to have Dr. Meyer here before the proffer was made or
13 whether the proffer --

14 THE COURT: No, I don't think that's necessary.

15 MR. YU: That's it.

16 MR. TALSON: That covers the issues that we would
17 ask for the court to determine.

18 THE COURT: Are those the witnesses you would
19 call? Do you have other witnesses?

20 MR. TALSON: We do have, Your Honor.

21 THE COURT: But the issue was on these three
22 witnesses?

23 MR. TALSON: And we only have a couple more after
24 that, and in order to schedule most efficiently --

25 THE COURT: Well, I think it would be better in

1 case I do end up certifying this over on the state law issues,
2 on the contribution issues, to have the testimony from other
3 depositors of TCA. I just think I would prefer to have that
4 testimony in the record. Even if I subsequently determine
5 that testimony isn't relevant, I would rather have it in the
6 record.

7 MR. SCHNEIDER: May we present our objections for
8 purposes of the record?

9 THE COURT: Yes.

10 MR. SCHNEIDER: The objections are simply that
11 the evidence of disposing of waste by parties other than Key
12 Tronic or the Air Force is irrelevant because these parties
13 are not -- these persons are not parties to the action. Since
14 they are not parties to the action, their actions would be
15 collateral matters.

16 It seems improper to adjudicate, to determine
17 what proportion or share of their liability would be when
18 those persons or parties have no ability to object, present
19 favorable evidence, and it seems --

20 THE COURT: Well, I'm not assigning any
21 responsibility to them. If I considered it, it would be in
22 determining what percentage, if that's an appropriate method,
23 what percentage did the Air Force contribute.

24 MR. SCHNEIDER: And it's our position that would
25 be improper because the express language of the contribution

1 statute states that in considering fault the court should
2 consider only the conduct of the parties to the action. In
3 light of that statute, as well as the other considerations,
4 Key Tronic would object to introduction of that evidence.

5 THE COURT: All right. Let's go ahead then.

6 MR. MOORE: Your Honor, if I may just make one
7 more point relating to that?

8 THE COURT: Well, I don't want to take the time
9 to argue the legal issues at this time. I am uncertain enough
10 where I'm sort of in the vanguard of this contribution
11 statute, as you all recognize, and I would rather get the
12 factual matters presented and resolved.

13 For example, I probably would make a finding,
14 whether I eventually rule that we can contribute or can
15 consider the other depositors, I think it's appropriate that I
16 make the various factual findings rather than my, even if my
17 impression at this time might be along the lines of Mr.
18 Schneider's argument, I think that we would all be better
19 served by getting the factual evidence in the record, and then
20 in the event I certify it, the result will then somewhat be
21 dictated or in the event I don't certify it, but rule one way
22 and if the circuit says I'm wrong, we then have the factual
23 determinations there, because life is short, and life
24 expectancy, it's less likely that I'm going to be here either
25 physically or in my now-waning career, waning as an active, as

1 opposed to senior judge. So I just think it's better for me
2 to get presented to me the evidence that I think I could
3 appropriately consider, make the factual findings, and then
4 decide whether or not to certify the legal issues.

5 MR. MOORE: Your Honor, could I just make one
6 point, because, well, there are a couple things, I guess two
7 points that really concern me. We've got a case against
8 Alumax in state court. We couldn't make them a part of this
9 case, nor could we make the United States a part of that case.
10 My interest in this case is obviously to try to minimize the
11 amount of TCA that Alumax put into this landfill. My interest
12 in the other case is to maximize it, obviously, if volume is
13 relevant at all. I don't want to be in a position of having
14 to cross-examine these people and suggest that they, you know,
15 they didn't take this stuff there. I would rather do this: I
16 think I would rather have the Government make a proffer and we
17 could make a proffer that there are other people also. I
18 mean, in a sense --

19 THE COURT: Well, except I think it's better for
20 me to make the factual findings so we don't have to -- a
21 proffer does nothing more than present the issue to appellate
22 review, and if you are proposing a stipulation as to the
23 amounts --

24 MR. MOORE: I don't know that we can stipulate as
25 to the amount, because I don't think anybody knows, nor do we

1 have any knowledge of what the amount is.

2 THE COURT: Well, one way to do it would be to
3 stipulate only for the purpose of this hearing, this action.
4 Now, you might consider that.

5 MR. MOORE: I would like to consider that,
6 because I don't want to be in the position of trying to
7 minimize their contribution in this case, which is in a sense
8 where I am placed by that potential ruling, and on the other
9 hand, you know, trying to go the other way in the other case.
10 I just find that to be really a difficult position to be in.
11 I think that's a good reason why the statute says what it
12 says. But let me talk to my client about a stipulation, Your
13 Honor.

14 THE COURT: All right.

15 (Pause)

16 MR. MOORE: Your Honor, the problem is that we
17 just -- we really have no idea how much TCA Alumax took to the
18 landfill. There is a real conflict in the evidence that we've
19 been able to develop up to this point. So I don't know what
20 to stipulate to other than we would stipulate that Alumax took
21 TCA to the landfill, but in terms of amounts, we don't have
22 any idea.

23 THE COURT: Well, then I better hear the
24 evidence.

25 MR. TALSON: And, Your Honor, let me represent to

1 the court that the witnesses, you know, we believe we can show
2 some amounts of TCA that went to the landfill volumewise.
3 There is some confusion over it, but I think it would be
4 better to put it on the record, at least give the court the
5 evidence that we have as best as we have it at this time.

6 THE COURT: I don't want to preclude your
7 evidence on the discretionary function. I would rather have
8 the evidence presented than through an offer of proof.

9 MR. TALSON: If I may have a moment, Your Honor,
10 perhaps I should contact Mr. Yu, who is out of the courtroom,
11 because he may be contacting Mr. Zitterkopf.

12 (Recess taken.)

13 MR. MOORE: Your Honor, we would call Dr. Henry
14 Landau.

15
16 DR. HENRY G. LANDAU, Plaintiff's witness, sworn.

17
18 THE CLERK OF THE COURT: Please state your name
19 for the court and spell your last name.

20 THE WITNESS: My name is Henry Groh Landau, Jr.,
21 last name (spelling) L-A-U-N-D-A-U.

22
23 DIRECT EXAMINATION

24 BY MR. MOORE:

25 Q. Dr. Landau, where do you reside?

1 A. Edmonds, Washington.

2 Q. What is your educational background?

3 A. I received my bachelor's Degree in Civil Engineering in

4 (b) (6) . My education was
5 somewhat interspersed with working, but I received my (b) (6)

6 (b) (6) in Geotechnical Engineering from Purdue

7 (b) (6) : (b) (6)

8 (b) (6) and that was in Groundwater Engineering.

9 Q. Okay, and what is your present occupation?

10 A. I'm presently one of the owners of Landau Associates. I
11 function as a groundwater engineer.

12 Q. What is your experience with respect to groundwater
13 engineering?

14 A. My experience deals in teaching and in consulting. I
15 have taught at the university level at the (b) (6)
16 in (b) (6), and I have now
17 approximately fifteen years of experience in groundwater
18 engineering, some with my own firm (b) (6), and prior to
19 that with the firm of (b) (6), and prior to that, I
20 worked for a Brazilian consulting firm, (b) (6)
21 (b) (6), I believe. I also
22 worked with the Army Corps of Engineers (b) (6), and
23 approximately one year of that work was as a groundwater
24 engineer.

25 THE COURT: When was your work on flue dust at

1 the Anaconda-Butte Mine?

2 THE WITNESS: That work was, I believe, back in
3 (b) (6) , and my work was --

4 THE COURT: Off the record.

5 (Discussion held off the record.)

6 THE COURT: All right. I've read the curriculum
7 vitae. If you want to expand on it, that's all right.

8 MR. MOORE: No, I was going to ask him to
9 identify it. I believe it's an exhibit.

10 MR. TALSON: May I ask the court did Mr. Landau
11 testify in that case before?

12 THE COURT: No, it involved the purchase, as we
13 used to say when I was in the practice, it involved the
14 merits of the case, being the money. All right.

15 Q. (By Mr. Moore) Dr. Landau, are you familiar with the
16 Colbert landfill?

17 A. Yes, I am.

18 Q. And what kind of work have you done in connection with
19 the Colbert landfill north of Spokane, Washington?

20 A. We have been involved in two projects related to the
21 Colbert landfill. The first was in the form of consulting
22 with Key Tronic Corporation regarding the development of the
23 scope of work or the remedial action and continued
24 investigation of the landfill as part of the consent
25 agreements now entered into. Following the completion of that

1 scope of work, we were retained by Spokane County to do the
2 final characterization of the landfill and to do the design
3 for the remedial action.

4 Q. When you say "we," "we were retained," are you referring
5 to Landau Associates?

6 A. Yes, Landau Associates, yes.

7 Q. And you had a group of employees that worked for you?

8 A. Yes, that's correct.

9 Q. How many are there?

10 A. There are forty-five people now.

11 Q. Okay. Did you personally work on the Colbert landfill on
12 the projects that you've identified?

13 A. Yes. I was project manager and had the lead technical
14 role in the negotiations and the development of the scope of
15 work, and I am now the project director of the design and
16 characterization study that differ somewhat from the project
17 manager in that I don't have day-to-day involvement in the
18 design efforts. There is another project manager assigned to
19 that role.

20 Q. Now, when you say your responsibilities include design
21 and you also talked about analytical work that was done before
22 you got to the design phase, did that relate to groundwater
23 hydrology in and around the Colbert landfill area?

24 A. Yes, it did. At this point, we have only done
25 preliminary design. The design will actually culminate over

1 the next year or more. In preparing to develop the scope of
2 work for the remedial action and also in preparing to do the
3 design, we have done analytical work regarding the
4 contamination emanating from the Colbert landfill and the
5 groundwater field hydrology.

6 Q. Have you visited the Colbert landfill site?

7 A. Yes, I have. I've been there on three or four occasions
8 now.

9 Q. Are you familiar with other sites where hazardous wastes
10 have been deposited in the now-contaminated groundwater?

11 A. Yes, I have. Over approximately the past ten years, I've
12 been involved in somewhere between twenty and thirty sites
13 involving groundwater contamination. A few of those sites
14 very closely parallel the Colbert landfill site.

15 Probably the one that's most directly related is a site
16 in Portland, Oregon, on the banks of the Columbia River that
17 also involves contamination from organic solvents, although
18 there are several other sites of similar magnitude that I'm
19 involved in and my firm is involved in.

20 Q. Okay. Now, with respect to the Colbert landfill are you
21 familiar with data that has been collected or generated at or
22 in the vicinity of that site, the Colbert landfill site, since
23 1980?

24 A. Yes, I have reviewed the data that is contained in the
25 remedial investigation and the feasibility study that was

1 prepared by Golder Associates and their sub-consultant,
2 including the appendices which deal with data prepared prior
3 to the involvement of Golder.

4 I have also reviewed subsequent data that has been
5 compiled by Bruce Austin resulting from the Colbert landfill
6 sampling committee which has done continual sampling and
7 testing of the groundwater in the vicinity of the Colbert
8 landfill.

9 Q. And has that testing been done to any drinking water
10 wells around the area?

11 A. Both drinking water wells and monitoring wells, and on
12 occasion several of the springs have been sampled.

13 Q. Have you had occasion to analyze that data?

14 A. Yes, we have.

15 Q. Okay, and are you also familiar with any studies of the
16 site done on behalf of the state or the United States
17 Environmental Protection Agency?

18 A. Yes, I'm familiar with the study that was performed by
19 Golder Associates that was done for the Washington State
20 Department of Ecology. That study, I believe, was done in two
21 parts, perhaps more than two, but the primary parts were the
22 remedial investigation and the feasibility study.

23 Q. And you've spent time studying that study?

24 A. Oh, yes.

25 Q. Okay. Has that been a big part of the work you've done

1 for both Key Tronic and the county?

2 A. Yes, became familiar with that, layed the groundwork for
3 the development of this scope of work that is part of the
4 consent agreement and also for the final design of the
5 remedial action.

6 Q. For the record, what does the term hydrogeology refer?

7 A. I think it would be best defined as the combination of
8 the disciplines of geology and water, which then results in
9 the study of groundwater.

10 Q. Now, do you have an opinion as to the characteristics of
11 the hydrogeology in and around the Colbert landfill?

12 A. Yes, I certainly developed an opinion over the years.

13 Q. Okay. I would ask you to identify Exhibit No. 96(A). We
14 have had this blown up, Your Honor. We have 8 1/2" x 11"
15 sized copies for you and for counsel.

16 MR. MOORE: Your Honor, would it be of any help
17 to move this closer, or is that fine?

18 THE COURT: That's fine. You can move it out.

19 MR. TALSON: As I say, I can't see it.

20 THE COURT: I prefer to have it right by the
21 witness and the witness in the witness box. Just bring it up
22 right along side you and move it right over against -- so he
23 can sit there.

24 MR. MOORE: Right over against him?

25 Q. (By Mr. Moore) Now, Dr. Landau, would you identify

1 Exhibit No. 96(A)?

2 A. Yes. Exhibit No. 96(A) is a figure that was taken from
3 the remedial investigation performed by Golder Associates, and
4 we've done some highlighting on it to show the locations of
5 the wells at interest and some color coding to identify the
6 specific aquifers from which the wells obtained water.

7 Q. Okay. Now, in the middle of that exhibit there is a
8 yellow area. What is that?

9 A. That is the Colbert landfill.

10 Q. Okay, and can you identify where the (b)(6) well is?

11 A. Yes. The (b)(6) well is located about one and a half
12 miles south of the landfill along Woolard Road.

13 Q. Okay, and you have color coding in connection with that
14 well?

15 A. Yes.

16 Q. What does that color coding refer to?

17 A. The coding here, the green triangle relates to an aquifer
18 that is screened in the upper sands aquifer.

19 Q. Is that a well screened in the upper sands aquifer?

20 A. Yes.

21 Q. A drinking water well?

22 A. Yes.

23 Q. Does that mean it draws water from the upper sands
24 aquifer?

25 A. Yes, it does.

1 Q. Now, where would the (b) (6) well be?

2 A. The (b) (6) well is located north of the central portion
3 of the landfill.

4 Q. Okay, and the (b) (6) and (b) (6) wells are just north of
5 that, are they not?

6 A. They are.

7 Q. And then originally the (b) (6) well is now the (b) (6)
8 east well is now where?

9 A. North of the landfill and of the Elk-Chattaroy Road.

10 Q. How about the (b) (6) well?

11 A. The (b) (6) well is located to the east of the landfill.

12 Q. Okay. Now, you also have some color coding and symbols
13 that you've used on this exhibit relating to each of those
14 five wells. Can you explain what those refer to?

15 A. Yes. The (b) (6), and (b) (6) wells are
16 all shown as blue circles. That means that they are screened
17 in the lower sands aquifer. The (b) (6) well is shown as a
18 blue square, and that is screened in the next lowest aquifer,
19 the Latah formation, which in fact is contiguous or joins
20 together with the lower sands aquifer.

21 Q. Okay. Now, can you describe the regional hydrogeology of
22 the area?

23 A. Yes, I can. I have prepared a few other displays that
24 have also been taken from the Golder remedial investigation.

25 Q. So the first two would be No. 96(B) and 96(C)?

1 A. That's correct.

2 Q. Okay.

3 A. Actually, No. 96(G) shows where the cross sections have
4 been taken from. Before I put on the cross sections, it's
5 perhaps good for me to show where they relate, though.

6 Section AA prime extends through the landfill here in
7 generally a southwest-northeast direction, whereas Section
8 BB --

9 Q. Now, just so that we can get clarification on this, that
10 AA prime then goes right through the (b)(6) well, basically?

11 A. Yes, it does.

12 Q. And it goes through the Colbert landfill from the north
13 to the south, actually the north to the southwest corner; is
14 that correct?

15 A. Yes.

16 Q. Okay, and it goes near the (b)(6) well in the upper side;
17 is that right?

18 A. Yes. It probably passes within one hundred feet or so of
19 the (b)(6) well.

20 Q. Please proceed. I'm sorry.

21 A. I might then begin with the first cross section AA prime.

22 Q. Okay.

23 A. Which is generally indicative of the regional
24 geohydrology. The second one is more closely related to the
25 immediate vicinity of the landfill.

1 Q. So you'll now be referring to Exhibit No. 96(C).

2 A. That's correct. Exhibit 96(C), I'm not sure. Your Honor,
3 can you see it?

4 THE COURT: I have one similar.

5 THE WITNESS: Okay. This one has the added
6 benefit of being color coded in order to help distinguish the
7 different aquifers. Again, this section goes through the
8 landfill.

9 The (b)(6) well is shown on here, and the
10 landfill would be located here to the left of the (b)(6) well.
11 The important features to point out on here are the zone that
12 is labeled A is that which is referred to as the upper sands
13 aquifer that I've previously referred to as the upper sands
14 aquifer.

15 The zone that is also colored in yellow and labeled
16 C is the lower sand and gravel aquifer, and the zone that is
17 labeled D is the basalt Latah formation, which is contiguous
18 with the lower sands aquifer. So relating back to the wells
19 we've previously discussed, the (b)(6) well is then screened
20 in Unit A and draws water from Unit A. The (b)(6), and
21 the (b)(6) and (b)(6) wells are screened in Unit C, and
22 the (b)(6) well is then screened in the upper portion of Unit
23 D.

24 Q. (By Mr. Moore) Okay. Now, I notice on this exhibit that
25 there is a little area, if you follow the (b)(6) well down,

20
1 there is a little area, there are two B's on the (b) (6) well,
2 and you have little question marks associated with that area.
3 Can you explain that, please?

4 A. Yes. First let me explain that the unit that is labeled
5 B is what is referred to as an aquitard, and that is a zone of
6 low permeability material that typically does not produce
7 water and typically serves to eliminate or reduce the flow of
8 water from one zone to another.

9 Within the log for the (b) (6) well, the well driller
10 identified two deposits of low permeability material. The
11 first is the upper green layer shown here labeled B, and the
12 second is the lower material that I just referred to that has
13 the query marks located on the side of it, and that is another
14 deposit of low permeability material. The query marks
15 indicate that the lateral extent of that material is not
16 known. It is not clear whether or not that extends one foot
17 beyond the (b) (6) well or many feet beyond the (b) (6) well.

18 Q. It doesn't show up in the other wells, though, at least
19 there is no record of it?

20 A. That's right. There was no record of the same deposit in
21 the wells that are close to the (b) (6) well.

22 Q. Now, I notice also in relation to the (b) (6) well, just to
23 the right of that there is another question mark.

24 A. That's right.

25 Q. What does that mean?

1 A. Again, it was not clear as to the lateral extent of this
2 material that's referred to as the upper aquitard and also
3 referred to as the Lacosterine and silt -- Lacosterine is a
4 term that means lake deposited material.

5 Q. You're referring to the B section now, the green?

6 A. Yes, the material shown in green.

7 Q. Okay. So it's not clear how far that extends beyond this
8 point marked as the (b) (6) well; is that correct?

9 A. That's correct.

10 Q. But it doesn't -- it apparently doesn't appear when you
11 get to the well; is that right?

12 A. Apparently not, although it's important to recognize that
13 the information developed for the (b) (6) well, the (b) (6) well,
14 and the (b) (6) well was all developed from well drillers logs
15 in contrast to the information developed for the three wells
16 furthest to the south -- further to the south, which were
17 developed for the purpose of this study and which were logged
18 by a groundwater engineer or hydrogeologist. Therefore, there
19 is much less certainty as to the specific geologic materials
20 that are present at the (b) (6) , and (b) (6) wells.

21 Q. Just for the record then, the wells where there was more
22 certainty as shown on Exhibit No. 96(C) would be the CD-4,
23 CD-2, and CD-5; is that correct?

24 A. That's correct, yes.

25 Q. And less certainty in terms of the well logs for the

1 (b)(6), and the (b)(6) wells?

2 A. That's correct.

3 Q. Now, could you describe the hydrogeology in the vicinity
4 of the landfill?

5 A. Yes, to demonstrate that, it's perhaps better to refer to
6 Section BB

7 Q. And that may be, just quickly if you can show us where BB
8 goes.

9 A. Again, BB begins near the central portion of the landfill
10 and then extends up in a direction slightly northeast of over
11 to the (b)(6) well, and, therefore, passes north up the
12 (b)(6) well, which is located along Big Meadows Road.

13 Q. Okay. So you're now going to refer to Exhibit No. 96(D);
14 is that correct?

15 A. That's correct. Now, this section shows the same
16 deposits as Section AA. It shows the upper sands aquifer and
17 the lower sands aquifer or sand and gravel aquifer. It shows
18 the two of them joining together because of the difficulty of
19 differentiating between the two, they have very similar
20 material types and, hence, it's not possible to identify with
21 certainty if there is a demarcation.

22 This figure also shows the upper Lacosterine
23 aquitard, and it shows that material tapering off near CD-7
24 well, I believe at Well CD-7 it was logged as being less than
25 a foot thick, and CD-7 is just to the east of the limit of the

1 landfill. So landfill would terminate here approximately one
2 hundred feet from well CD-7.

3 It is perhaps most significant to note that
4 several things about this Lacosteran aquitard; one, is that it
5 may be absent, probably absent to the east of the landfill,
6 that it may even be absent at CD-7 given the very thin nature
7 of it that it has here, or absent even somewhat to the west of
8 CD-7. Also, that there was a slope downwards from west to
9 east of this upper aquitard. Those pieces of information will
10 become important as we discuss later the distribution of the
11 organic solvents.

12 Q. So, the B matter as shown on Section BB, the upper
13 surface of that aquitard, slopes at least in this part of the
14 landfill, slopes to the east, right?

15 A. That's right, in this portion of the landfill. Now,
16 where this section had been extended over to the west, we
17 would see a slope in the other direction downwards to the
18 west.

19 Q. Okay. What is generally to the west of the landfill in
20 terms of geology?

21 A. The Little Spokane River is located approximately half a
22 mile to the west of the landfill, and that is an important
23 feature in characterizing the hydrogeology.

24 Q. It might be important to put up No. 96(A) just so we can
25 take a look at that.

1 A. Yes. Unfortunately, No. 96(A) does not extend quite that
2 far, but --

3 Q. I think you've got No. 96(B) there.

4 A. Oh, I'm sorry. I was suggesting that the exhibit that
5 shows the river --

6 A. Yes, right, No. 96(A). Exhibit 96(A) does show the
7 Little Spokane River, and it's located approximately a half
8 mile to three-quarters of a mile to the west of the Colbert
9 landfill.

10 Q. Okay. Now, in terms of the lower aquifer, what is the
11 general direction of flow of that lower aquifer?

12 A. Well, the general direction of flow of the lower aquifer
13 as identified in the remedial investigation feasibility study
14 is slightly to the north of the wells, and that is in sharp
15 contrast to the upper aquifer, where the general direction of
16 groundwater flow in the aquifer is almost due south.

17 Q. So the lower aquifer tends -- the general direction of
18 that is to go towards the Little Spokane River?

19 A. That's correct.

20 Q. Okay, and the upper aquifer in contrast, the general
21 trend is to go south?

22 A. That's correct.

23 Q. Now, you've indicated that you're familiar with the data
24 collected in various wells and monitoring wells and drinking
25 water wells. Are you familiar with whether that data shows

1 TCA, 1,1,1-trichloroethane plume in the upper aquifer?

2 A. Yes.

3 Q. And can you describe that plume then, please?

4 A. Yes. For the purpose of describing the plume, I have
5 used the figure from the remedial investigation that was
6 developed by Golder. This is Exhibit No. 96(E), and the only
7 change to this figure has been the color highlighting, I
8 believe, that we did.

9 Q. Now, this is from data generated during what period?

10 A. This is from data generated during the period 1985 and
11 '86.

12 Q. Okay. Please continue and describe that plume.

13 A. As I had earlier mentioned, the primary direction of
14 groundwater flow in the upper aquifer is to the south and the
15 plume in the upper aquifer clearly indicates that that has
16 been the path of migration of the groundwater and TCA.

17 Q. Where is the (b) (6) well in relation to that plume?

18 A. The (b) (6) well is located near the southern limits of
19 the plume, and the 1985 and '86 data showed a concentration of
20 approximately 1100 parts per billion, and that well is so
21 labeled on this figure.

22 Q. Okay, so it's the 1100 that is down towards the very end
23 of the plume on Woolard Road?

24 A. That's correct.

25 Q. Okay. Now, there are numbers on these lines of the

1 plume, the 100, the 300, and the 1,000. To what do those
2 numbers refer?

3 A. This numbers represent the concentrations in the
4 groundwater in parts per billion. In other words, the contour
5 labeled "1000" passes very closely to the Irgens well because
6 of the concentration there of 1100 parts per billion.

7 Q. And this data then has been generated from numerous well
8 points around the area; is that correct?

9 A. Yes, it has.

10 Q. And those well points were all in the upper aquifer?

11 A. That is correct, although I believe there is uncertainty
12 about one well, perhaps two. But the contours that would be
13 developed excluding those data points, are very similar to
14 these.

15 Q. Now, I notice on Exhibit No. 96(E), at least on the
16 smaller version, there are broken lines up in the top part
17 around the landfill and to the north or northeast of the
18 landfill. What do those broken lines mean?

19 A. Well, the broken lines are indicative of the sparsity of
20 data in this area. Most of the wells in this area -- most of
21 the wells that were accessible to sampling are screened in the
22 lower aquifer, and, hence, there was not enough data to
23 continue to draw the contours, so for that reason they were
24 shown dashed.

25 Q. I see. So what the concentratioos of TCE, TCA, north and

1 east of the landfill in the upper aquifer is somewhat of an
2 unknown; is that correct?

3 A. That's correct.

4 Q. Now, can you describe -- I guess let me ask this: Are
5 you familiar with whether the data shows a TCA plume in the
6 lower aquifer?

7 A. Yes.

8 Q. And can you describe that plume?

9 A. Yes. For that purpose, were we prepared another figure,
10 and this is Exhibit No. 96(F). This shows the distribution of
11 TCA in the lower sand and gravel aquifer and in the Latah
12 formation.

13 Q. Now, this is the aquifer from which the (b) (6)
14 (b) (6), and --

15 A. And also (b) (6)

16 Q. -- (b) (6) all drew their water --

17 A. That is correct.

18 Q. What particular time period is this particular data drawn
19 from?

20 A. This also comes from the period 1985 and 1986.

21 Q. Okay. Now, have you considered the data for the period
22 1980 through 1983 for this same area?

23 A. Yes. For the lower aquifer, we have; for the upper
24 aquifer, the data is somewhat sparse for that time period.

25 Q. Okay. I take it in the remedial investigation this was

1 the diagram that was available showing the plume in the lower
2 aquifer; is that correct?

3 A. That's correct.

4 Q. Does your examination of the data from the period
5 around -- from 1980 to 1983 show a significant difference in
6 terms of where this plume was during that period?

7 A. No, it does not. Of the five wells, three are very
8 closely similar, and one showed higher concentrations in the
9 latter years, and one showed lesser concentrations. So on the
10 whole, they were similar.

11 Q. Okay. Now, that plume again has various concentration
12 lines, does it not?

13 A. Yes, the concentration lines shown here begin with 2500
14 parts per billion and extends out to fifty parts per billion
15 contour.

16 Q. Is it fair to say that the concentrations of TCA in the
17 lower aquifer are greater, at least around where the (b) (6)
18 wells and (b) (6) -- are greater than they are at the (b) (6) --
19 have ever been at the (b) (6) well?

20 A. Yes, that is fair to say.

21 Q. Now, can you explain how the trichloroethane would have
22 got to the (b) (6) well?

23 A. Yes, for the (b) (6) well, it's relatively easy to explain
24 the migration of TCA to that well.

25 Q. You might want to get back to No. 96(E).

1 A. I think I would like first to go back to No. 96(C), if I
2 may.

3 Q. Okay.

4 A. Exhibit No. 96(C) shows again the upper aquifer as
5 labeled as Unit A, and it shows beneath that the upper
6 aquitards, with the salts and clays labeled as Unit B.

7 The groundwater within Unit A, the term is perched,
8 the groundwater perched before Unit B. What that means is the
9 water that infiltrates down from the ground surface, comes to
10 rest on Unit B, and once it hits Unit B, it then flows --
11 actually flows in several different directions in the
12 immediate vicinity of the landfill, as you can -- as this
13 figure implies. There would be some flow of the water to the
14 north given the slope of the aquitard to the north.

15 A. But primarily the flow direction in the upper aquifer is
16 to the south, is generally a southern slope to this aquitard.
17 The water levels taken in wells in the upper aquifer indicate
18 a gradient or slope of the water table that is also to the
19 south, and the concentrations of the TCA shown in the wells in
20 the upper aquifer are indicative of a plume moving towards the
21 south.

22 So the information, at least from the landfill south,
23 generally corroborates it that the groundwater flow and the
24 organic solvent migration when in the dissolved form would be
25 essentially to the south along the surface of this upper

1 MR. YU: Thank you, Your Honor. The United
2 States would proffer the testimony of Dr. Eugene Meyer. His
3 education and experience is set forth in his curriculum vitae,
4 which is Exhibit No. 167.

5 Doctor Meyer would testify that he reviewed RCW
6 90.48 -- excuse me -- 48.080, and Washington Administrative
7 Codes 117-302 --

8 THE COURT: What is the field of expertise of
9 this witness?

10 MR. YU: He's a chemist.

11 THE COURT: Oh, I thought maybe he was on the
12 supreme court, state supreme court. All right. Go ahead.
13 But he's going to interpret these laws, is he?

14 MR. YU: He's going to render an opinion as to
15 whether they provide any objective standards.

16 THE COURT: Oh, this has to do so with my
17 ruling --

18 MR. YU: On the discretionary function and
19 also --

20 THE COURT: Well, no. I don't know about the
21 discretionary function, but I've ruled that the state court
22 ruling applies in the (b) (6) case, that being that TCA is an
23 extra hazardous waste.

24 MR. YU: Yes, that's correct, Your Honor. He has
25 some testimony to that effect also. This portion of the